

Action with “Internet Plus”: How Vocational Colleges Cooperate with Enterprises

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ABSTRACT

How vocational colleges cooperate with enterprises has been an important concern in running the vocational higher education system. The purpose of this work is to figure out what the ways colleges cooperating with enterprises are by analyzing the difficulties in talent cultivation and by sorting out what the main college-enterprise cooperation modes are with literature review. The difficulties in talent cultivation include perspectives of "Internet +" teaching practice, the utilization rate of "Internet+" teaching practice resources and "Internet +" teachers. There are three college-enterprise cooperation modes based on different dimensions including the relationships between students and teachers, colleges and enterprises, and what students have learned and what requirements they should meet for career qualifications. To conclude, college-enterprise collaboration mechanism, course co-construction, shared learning resources and the dual-teaching team construction should be further focused on when colleges cooperate with enterprises.

Keywords: *College-enterprise cooperation; Internet +; Integration path*

1. INTRODUCTION

Higher vocational colleges aim to cultivate high-quality applied talents, which mean that higher vocational colleges often need to cooperate more closely with enterprises in order to accurately grasp the direction of vocational education [1]. Hangzhou is rich in resources for running colleges, and the nature of the school is comprehensive, while the local economic development is still faced with the problem of lack of labor structure. How to use college-enterprise cooperation to further enhance the space for higher vocational talent training in terms of school characteristics, target positioning, professional settings, education models and teaching methods, and improve the matching degree of human resource quality with local economy is the main issue that needs to be solved urgently in the process in the current talent training in higher vocational colleges.

Since 2012, with the concept of "Internet +" being put forward, a new business model combining Internet technology and traditional industries has gradually emerged, and various industries and enterprises are forced to face a new round of development opportunities. At the same time, it also puts forward new requirements for the current higher vocational education talent training and college-enterprise cooperation model.

With the literature in the related fields at home and abroad, this article compares the traditional and the educational needs and capabilities of higher vocational colleges in the "Internet+" era from a meso-level perspective so as to promote school-enterprise collaboration based on information thinking in the "Internet+" era, optimizes the

education practice platform, improves the management system, explores the "Internet +" new model of college-enterprise cooperation, provides ideas for promoting the cooperation between vocational colleges and enterprises, promotes the development of domestic vocational education, and explores the development of a systematic, effective and practical feasibility mode.

2. DIFFICULTIES IN TALENT CULTIVATION

According to the statistics, Hangzhou ranks first in the country in terms of netizen scale, Internet penetration rate, and e-commerce transaction volume, and thus it is shortlisted as a national e-commerce demonstration city. The rapid development of the Internet industry in Hangzhou has urged new business forms and models in the production and service industries, and "Internet +" startups have begun to take shape.

The rapid development of science and technology has had a huge impact on various fields. All industries require professionals in this field to master not only professional knowledge and skills, but also Internet knowledge and skills [2]. However, compared with leading countries in the field of vocational education such as the United States and Germany, China's higher vocational education still has a lot of problems, especially in terms of college-enterprise cooperation[3][4]. Factors such as low enthusiasm to actively accept interns and incomplete relevant laws and regulations have affected the in-depth development of higher vocational education in the "Internet +" era. At the same time, for vocational colleges, the practical teaching process based on college-enterprise cooperation plays an important role in professional training. Through a sample

of practitioners from different "Internet +" service industries in Hangzhou, it is found that the current higher vocational colleges still have the following problems in the process of professional talent training. [5]

2.1. The "Internet+" Teaching Practice Seriously Lags Behind

The traditional teaching mode emphasizes instilling theoretical knowledge in the teaching process, and is still very common to ignore practical teaching. The paper test is still an important mode for determining students' performance. The colleges' lack of contact with industries or leading companies has caused the practice courses to be out of touch with the new requirements for the "Internet+" service industry. The teaching process is step-by-step, and unable to highlight the training requirements of professional practice ability and comprehensive literacy. At the same time, the practice is aimed at students' engineering practice ability, and the teaching effect of innovation and entrepreneurship awareness training is obviously insufficient.

2.2. Low Utilization Rate of "Internet+" Teaching Practice Resources

The basic goal of the teaching platform for practice is to consolidate professional theoretical knowledge, train practical ability, and integrate with the actual needs of enterprises. At this stage, due to the long update cycle of experimental and training equipment in higher vocational colleges, problems such as the inability of simulation training software to meet the needs of the real production environment are more prominent. On the other hand, the lack of a good integration mechanism for experiment and training resources, vacant equipment and the low utilization rates are also common, which restricts the effective development of training and teaching.

2.3. Unqualified "Internet +" Teachers

The current higher vocational teachers are basically masters or doctors with quite sufficient knowledge, but without relevant business practical experience. They don't understand and generally don't have a high level of "Internet +" literacy, which is manifested in the lack of necessary innovative application capabilities and resource acquisition capabilities, as well as the ability to integrate curriculum teaching and new media resources to cultivate high-quality compound talents in the new era. This has brought an adverse effect and will affect the operation and management of students in the employment field in the future.

3. COLLEGE-ENTERPRISE COOPERATION MODES

"Internet +" refers to the deployment and optimization of the industrial chain resources of traditional industries through advanced information technology and Internet platforms so as to achieve deep integration and form an integrated role. The adjustment of industry trends will inevitably have an impact on the development strategy of enterprises and the talent training strategies of higher vocational colleges, which requires higher vocational colleges to adjust the original college-enterprise cooperation model to adapt to the development situation of "Internet +". At present, the main cooperation modes of college-enterprise cooperation include the following aspects.

3.1. "Internet +" "1+1" College-enterprise Cooperation Model Based on Modern Apprenticeship

The modern apprenticeship system is a new type of talent training model that the college uses to further deepen the "on-the-job education" and "work-study alternation" in the previous college-enterprise cooperation model to cultivate talents with the enterprise [6]. Different from the traditional college-enterprise cooperation model, through teachers' joint guidance with corporate mentors, with "Internet +" course development and teacher sharing as the link, the present model deeply integrates corporate projects, culture, management, standards, and the process of cultivating talents, forming teachers and teachers as one, students and employees as one. The integration of production and teaching, and the integration of products and studies promote enterprises and higher vocational colleges to jointly cultivate high-quality skilled, technical talents and high-quality laborers required by the enterprise. [7] [8]

3.2. "Internet +" "1+1+N" College-enterprise Cooperation Model Based on Shared College-Enterprise Resources

The association is an important bridge connecting colleges and enterprises, and plays an active role in the communication between the two parties. The "1+1+N" collaborative education college-enterprise cooperation model of "Internet +" multi-subject college-running consortium is formed by the three parties of higher vocational colleges, industry associations, and enterprises in the industry associations[9]. The advantages from integrate resources from all sources give full play to the advantages of "Internet +", and focus on the innovation of vocational education, the construction of a "double teacher" team, the development of "dual course" education, the training of "modern apprenticeship" students, the

innovative school-running mechanism, and the industry-oriented training application to carry out comprehensive cooperation in areas such as research on industry development and personnel training topics, professional technical and management skill training for industry practitioners, and research on industry technical standards. [10]

3.3. "Internet + " "I+X" College-enterprise Cooperation Model to Meet the Needs of the Industry

At the beginning of 2019, the State Council officially issued the "National Vocational Education Reform Implementation Plan". The "I+X" certificate system is an important part of the plan, in which "I" refers to academic certificates, and "X" refers to a number of vocational skill level certificates. Students in vocational colleges are encouraged to actively obtain multiple types of vocational skill certificates while obtaining academic certificates, expand employment and entrepreneurship skills, and alleviate structural employment conflicts. The advantage of "Internet +" can be used to promote the integration of documents and certificates, and the consistency of training goals and teaching requirements can be maintained by matching different levels of vocational skill standards with the training goals of different stages of professional academic education and the learning goals of professional core courses. [11] [12] At the same time, by integrating the vocational skill training of the X certificate into the professional talent training plan in order that the professional courses can cover the vocational skill training of the X certificate, and there is no longer a separate X certificate training; the training is not covered by the professional courses, and then it supplements, strengthens and expands through vocational skill training modules.

4. PATHS OF COLLEGE-ENTERPRISE COOPERATION

Through the comparative study of different college-enterprise cooperation modes, it can be seen that the way of college-enterprise cooperation in the "Internet +" era is mainly composed of system mechanisms, curriculum co-construction, resource sharing, and teacher co-construction.

4.1. College-enterprise Collaboration Mechanism Based on "Internet +" Thinking

Higher vocational colleges need to actively adapt to industrial upgrading, combine with the current industrial reforms, make reasonable adjustments to their own professional construction and talent training programs, continuously strengthen the construction of professional connotation, and involve enterprises in the form of professional demonstration meetings [13]. In the whole

process of the talent training program, they dynamically adjust its own professional core curriculum settings based on changes in the employment needs of the industry, and have a more accurate judgment on the future development of the industry to ensure that the training of professional talents can match the future development needs of industrial enterprises.

4.2. Co-construction of Courses Based on the Connotation of "Internet +"

Based on the industrial standards and vocational qualification certificate standards, higher vocational colleges will develop and construct a curriculum system that meets industry requirements, focus on project curriculum development and the integration and modularization of courses, strengthen practical teaching, pay attention to professional development, and improve the quality of talent training.

To enhance the core competitiveness for their students, set up a curriculum system according to the needs of professional positions and job groups, plan the curriculum system based on the result-oriented education concept, and cultivate their students with core abilities as the starting point [14]. Aiming at the employment group, higher vocational colleges will form the analytical table of the job content and transform it into knowledge ability, formulate curriculum standards, and rationally organize the curriculum structure to meet the individualized requirements of the curriculum.

At the same time, higher vocational colleges will integrate high-quality course resources to build a "golden course" with depth, difficulty and challenge, attach importance to the construction of core courses, train their students to master high-level professional skills, and have good professionalism and lifelong learning capabilities through in-depth knowledge learning in professional fields. And higher vocational colleges will make full use of Internet + technology, develop online course education, continue to promote flipped courses, mixed teaching mode, and promote the application of modern technologies such as the Internet, big data, artificial intelligence, and virtual reality in teaching. [15]

4.3. Resource Sharing Based on the Essence of "Internet +"

The essence of Internet+ is resource sharing. Through new models such as work-learning alternation and on-the-job education, the real production environment of the enterprise is introduced into the practical teaching link, and students' practical skills are improved [16]. This is done to solve the slow update of training equipment and training resources in higher vocational colleges, and it is an important supplement to problems such as insufficient supporting facilities. At the same time, higher vocational colleges will actively carry out "introducing enterprises

into schools", promote the construction of productive training rooms, and effectively use idle training equipment in colleges and universities through social service projects to realize mutual benefit and sharing.

4.4. The Construction of A Dual-teaching Team Based on "Internet +"

A "dual-teacher" teaching team with rich corporate experiences is the key to talent training. Therefore, it can make full use of the corporate resources and talent advantages of industrial associations and industrial leading companies, introduce high-quality corporate mentors and industry experts, and select college teachers to visit labor associations and cooperative enterprises to actively serve regional economic development, and use college-enterprise cooperation as the link to promote the common development of dual-teaching teams.

5. SUMMARY

In summary, under the background of "Internet +", the development of information technology has brought new challenges and opportunities for the transformation and development of enterprises and the training of talents in higher vocational colleges. The government, industry, universities, and enterprises are constantly exploring new models of college-enterprise cooperation and integration of production and education. However, no matter what kind of new college-enterprise cooperation model should be under the background of the times, and under the premise of ensuring the quality of teaching, higher vocational colleges have to make full use of resources from all parties, with talent training as the core, and achieve a "win-win situation" among students, enterprises and higher vocational colleges" so that "benefit", "effect" and "efficiency" are simultaneously achieved.

5.1. The Talent Training Should Benefit the Economy

Talent training should be able to better meet the needs of higher vocational college students and social and economic development. First of all, the development requirements of students should be met. The students of higher vocational colleges can be divided into three categories: "willing and suitable", "willing but not suitable" and "unwilling" to take the way of skills and talents. It is necessary to establish a sound admission assessment system, and try to ensure that "willing and suitable" students are admitted. For students who are "willing but not suitable" and "unwilling", help should be provided according to their characteristics and needs to ensure the learning effect of all the students. On this basis, scientific methods should be adopted and reasonable procedures should be followed to analyse the regional, diverse and dynamic needs of social and

economic development in Zhejiang Province, deepen the supply-side teaching reform, and promote the training of "effective" talents.

5.2. The Talent Training Should Meet the Requirements in the Corresponding Fields

Talent training should be able to achieve the expected talent training goals. Although Zhejiang Province's higher vocational education has advantages in the educational model, its connotation construction is weak, the inter-college development environment is uneven, and the adequacy of reform needs to be improved. In order to improve the results of theoretical and practical teaching of talent training, and increase graduates' employment satisfaction, a vocational qualification framework corresponding to curriculum construction standards and academic certificates and vocational qualification certificates should be established. Insufficient funding will restrict the improvement of the overall quality of education. Higher vocational colleges should learn from the experience of "double first-class" construction in universities and design and implement special financial projects that effectively promote the construction of higher vocational education.

5.3. The Talent Training Process Should be Effective

Talent training should be done through college-enterprise cooperation, make full use of demand-side resources, and improve the efficiency of talent training. However, "the lack of willingness to cooperate with enterprises" is the main problem in the current vocational college-enterprise cooperation. Demand-side management reforms can be carried out, financial compensation or subsidy systems can be established, and on the basis of establishing and perfecting college-enterprise cooperative enterprise access, supervision and exit mechanisms, college-enterprise cooperation can be encouraged and standardized systematically, and a long-term partnership for higher vocational college-enterprise cooperation can be established, so that the effective mechanism, and effective integration of supply and demand will make the tripartite "win-win" of students, enterprises and higher vocational colleges.

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